February 3, 1952

Dear Roger:

Enclosed are five cultures of Pseudomonas fluorescense the wild type A3.12 (PF-15); two single mutants (PF-2 and PF-3) and two diauxotrophs (PF-20 and PF-28). The labels should be self-explanatory. I have not been able to demonstrate any genetic interchange among them. These happen to be the only cultures I have had on slants; I have some more in lyophil. If your preliminary work is encouraging, let me know and I'll send you the remainder, but what you have here should go a long way.

For the past month, I've been working on an unexpected development in K-12: a factor required for fertility. This factor is transmitted extracellularly with very high efficiency, but I have yet to obtain cell-free preparations. Only a few existing stocks lack it; they are readily "reinfected" by brief periods of culture with active stocks. The factor is also found in a variety of other E. coli stocks, some not fertile with K-12. Heavily aerated cultures (presumably by virtue of their more rapid proliferation) are phenocopies of "F-", but usually become F+ again when grown in standing culture. The factor is not lambda. Aside from phage, F is the only extranuclear factor yet to be found in E. coli (contra Salmonella). If you have a chance to travel in Italy, (and the international congress will be a considerable motive) say hello to Cavalli in Milan (Istituto Sierterapico), who's doing some interesting genetic work with E. coli. Don't omit to do the same to our friends in Paris.

The actinomycete work is considerably impeded by difficulties with medium, especially to induce prompt and regular sporulation of plated colonies. So far all the evidence points to moderately frequent heterokaryosis, but not much else.

I've had a good deal of difficulty in getting Orskov's old monograph, which I should like to see. Do you happen to know where it can most conveniently be obtained? I would like to have it microfilmed, but even the USDA library doesn't have it. I have an open order with the MBL library at Woods Hole for that sort of work, but need the book first.

We know you'll have a grand time this year: Bon Voyage

Joshua Lederberg